

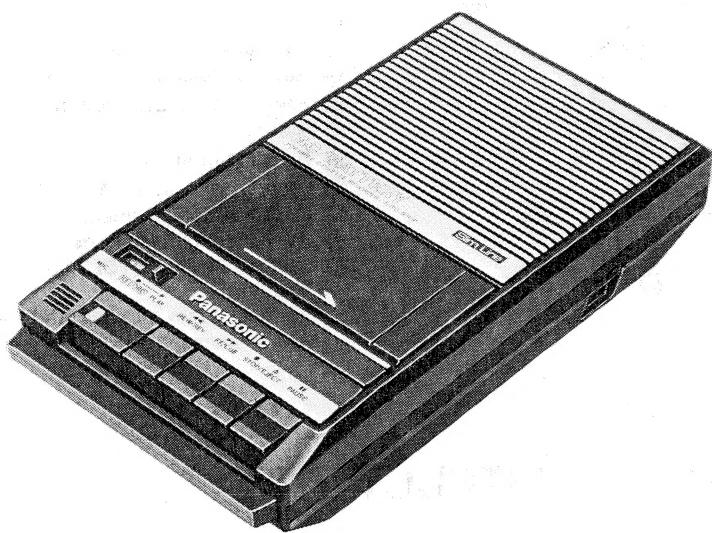
Service Manual

Portable Cassette

Portable Cassette Tape Recorder

RQ-2104

(Black)



This is the Service Manual
for the following areas.

- Z ... For all European areas except United Kingdom and F.R. Germany.
- E ... For United Kingdom.
- X ... For Asia, Latin America, Middle East and Africa areas.
- L ... For Australia.

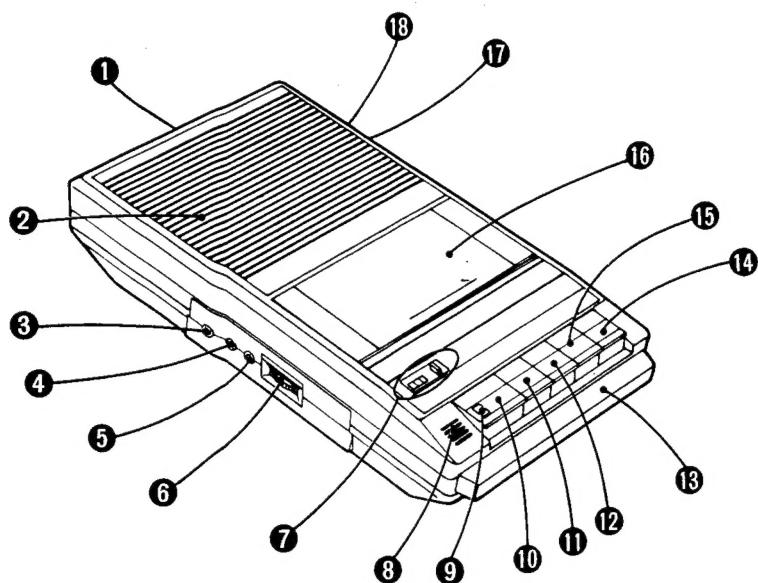
RQ-2745 MECHANISM SERIES

■ SPECIFICATIONS

Power Requirement:	Battery; 6V (four "C" size dry batteries) <input checked="" type="checkbox"/> AC; 220V, 50Hz <input type="checkbox"/> E AC; 240V, 50Hz <input checked="" type="checkbox"/> X AC; 110-127/220-240V, 50/60Hz
Motor:	Electrical governor motor
Tape Speed:	4.8cm/s
Recording System:	DC bias. Magnet erase
Fast Forward and Rewind Time:	Approx. 90 seconds with C-60 cassette tape
Track System:	2 track monaural recording and playback
Power Consumption:	6W (AC only)
Power Output:	650mW... RMS (max.)
Input:	MIC; sensitivity 0.25mV/applicable microphone impedance 200Ω~600Ω (φ3.5)
Output:	Monitor; 8Ω (φ3.5)
Frequency Response:	100~7,000Hz
Speaker:	8cm PM dynamic speaker (8Ω)
Dimensions:	139mm(W)×52mm(H)×249mm(D)
Weight:	870g without batteries

Design and specifications are subject to change without notice.

LOCATION OF CONTROLS AND COMPONENTS



① Battery Compartment [Bottom]
 ② Speaker 8cm, 8Ω
 ③ Monitor Jack (MONITOR (8 Ω)) φ3.5
 ④ Remote Jack (REMOTE)
 ⑤ Microphone Jack (MIC) φ3.5
 (0.25 mV/200~600Ω)
 ⑥ Volume Control (VOLUME)
 ⑦ Tape Counter and Reset Button
 ⑧ Built-in Microphone (MIC)
 ⑨ Record Button (● RECORD)
 ⑩ Playback Button (▶ PLAY)
 ⑪ Rewind/Review Button (◀◀ REW/REV)
 ⑫ Fast Forward/Cue Button (▶▶ FF/CUE)
 ⑬ Handle
 ⑭ Pause Button (II PAUSE)
 ⑮ Stop/Eject Button (■/▲ STOP/EJECT)
 ⑯ Cassette Compartment
 ⑰ AC Socket (AC IN) [Side]
 ⑱ Voltage Selector (VOLTAGE SELECTOR)
 [Bottom]
 (for Asia, Latin America, Middle East and
 Africa areas.)

DISASSEMBLY INSTRUCTIONS

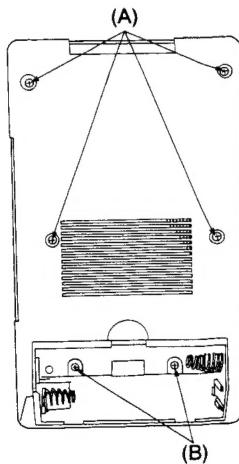


Fig. 1

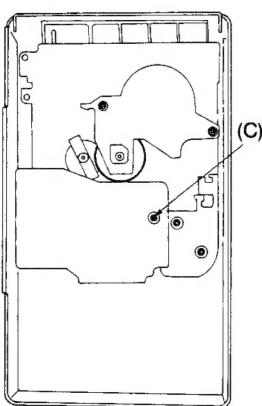


Fig. 2

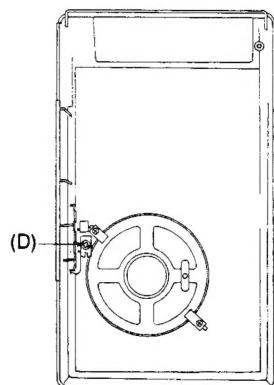


Fig. 3

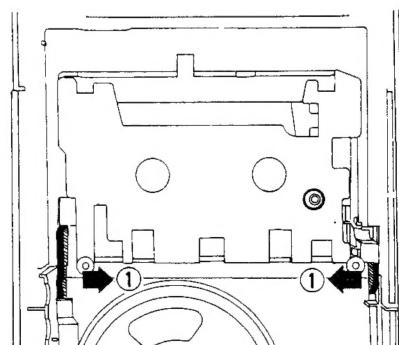


Fig. 4

Ref No.	Shown in Fig. —.	To remove —.	Remove —.
1	1	Main Case	Screw (3×30) mm.....(A)×4
2			Screw (3×8)mm.....(B)×2
3	2	Circuit Board	Screw (3×8)mm.....(C)×1
4	3	Cassette Lid	Screw (3×8)mm.....(D)×1
5	4		Remove the rib direction of arrows ①.

■ HOW TO FIX THE MOTOR

Remove the three screws E×3 (2.6×8)mm.
(See Fig. 5)

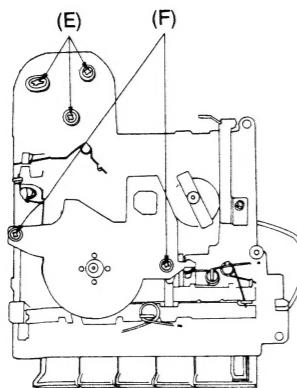


Fig. 5

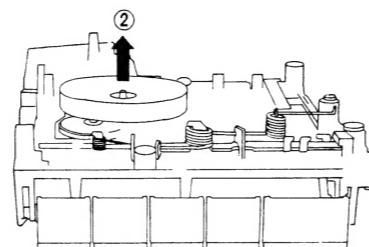


Fig. 6

■ HOW TO FIX THE FLYWHEEL ASS'Y

1. Remove the two screws F×3 (2.6×10)mm and flywheel holding plate ass'y. (See Fig. 5)
2. Pull out the flywheel ass'y in the direction of arrow ②. (See Fig. 6)

MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

1. Make sure heads are clean.
2. Make sure capstan and pressure roller are clean.
3. Judgeable room temperature: $20\pm5^{\circ}\text{C}$ ($68\pm9^{\circ}\text{F}$)
4. Set volume control to maximum.

■ ADJUSTMENT

ITEM	INPUT	MEASUREMENT POINT	SPECIFICATION	ADJUSTMENT POINT	REMARKS
Head azimuth	QZZCFM (8kHz, -20dB)	Monitor (8Ω)	Maximum output	Head adjustment screw	Playback Mode (Refer to Fig. 1)
Tape speed	QZZCWAT (3kHz)	Monitor (8Ω)	3000 ± 90 Hz	Tape speed adjustment VR	Playback Mode (Refer to Fig. 2)

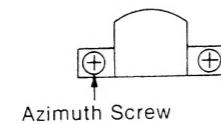


Fig. 1

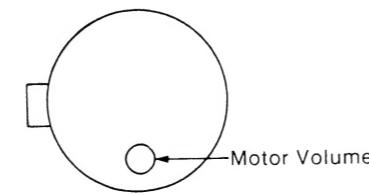
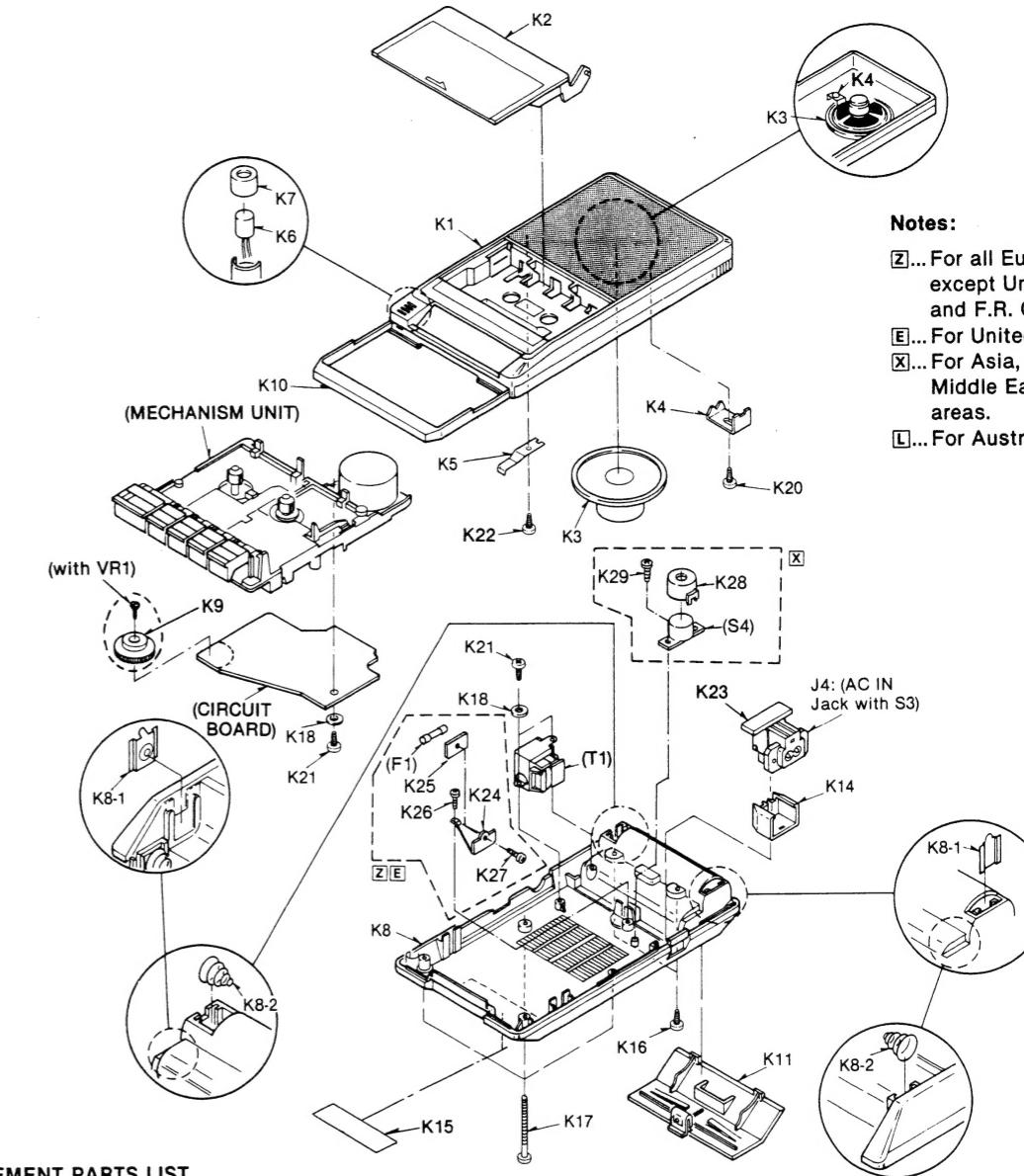


Fig. 2

CABINET PARTS LOCATION



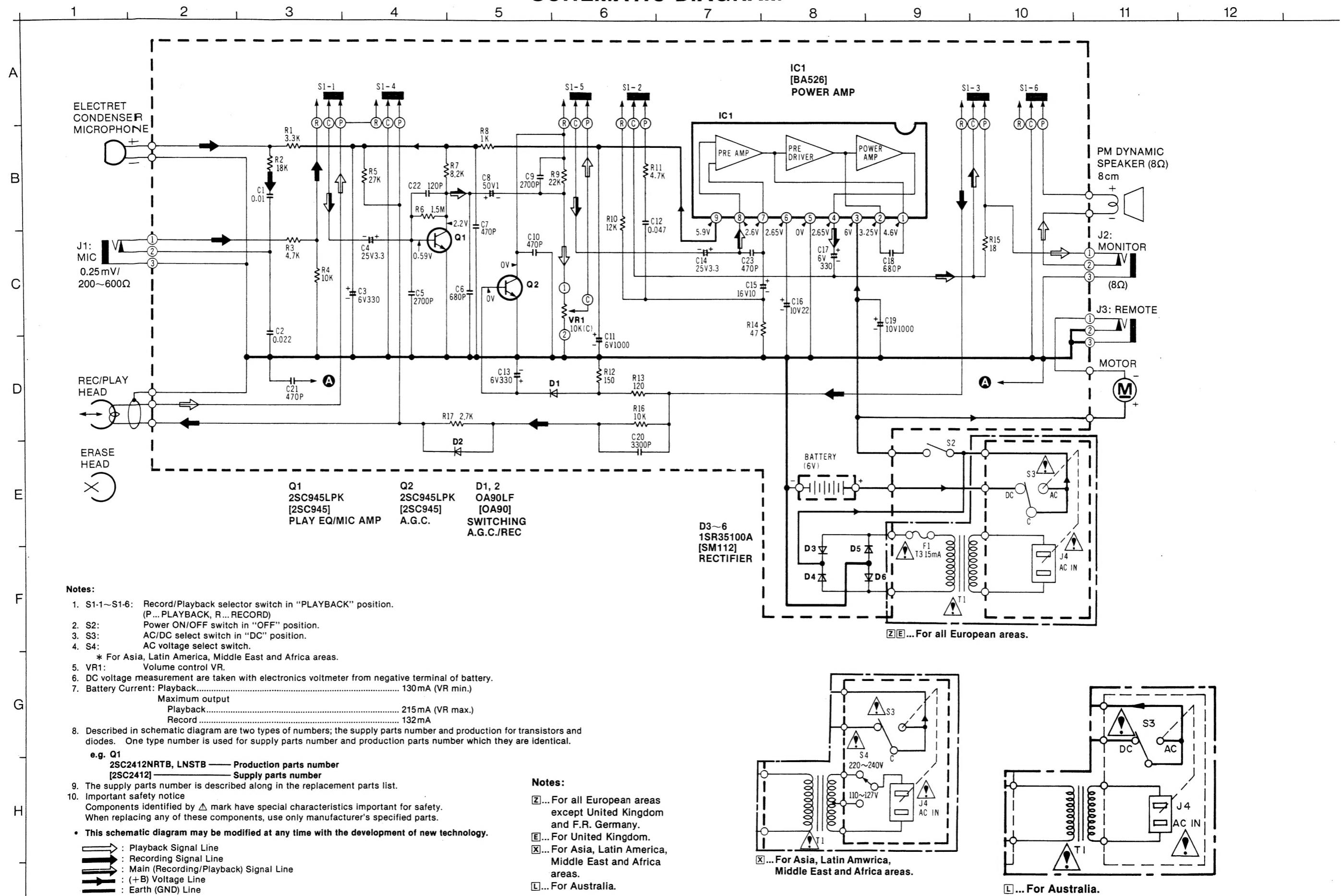
REPLACEMENT PARTS LIST

Important safety notice
Components identified by Δ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

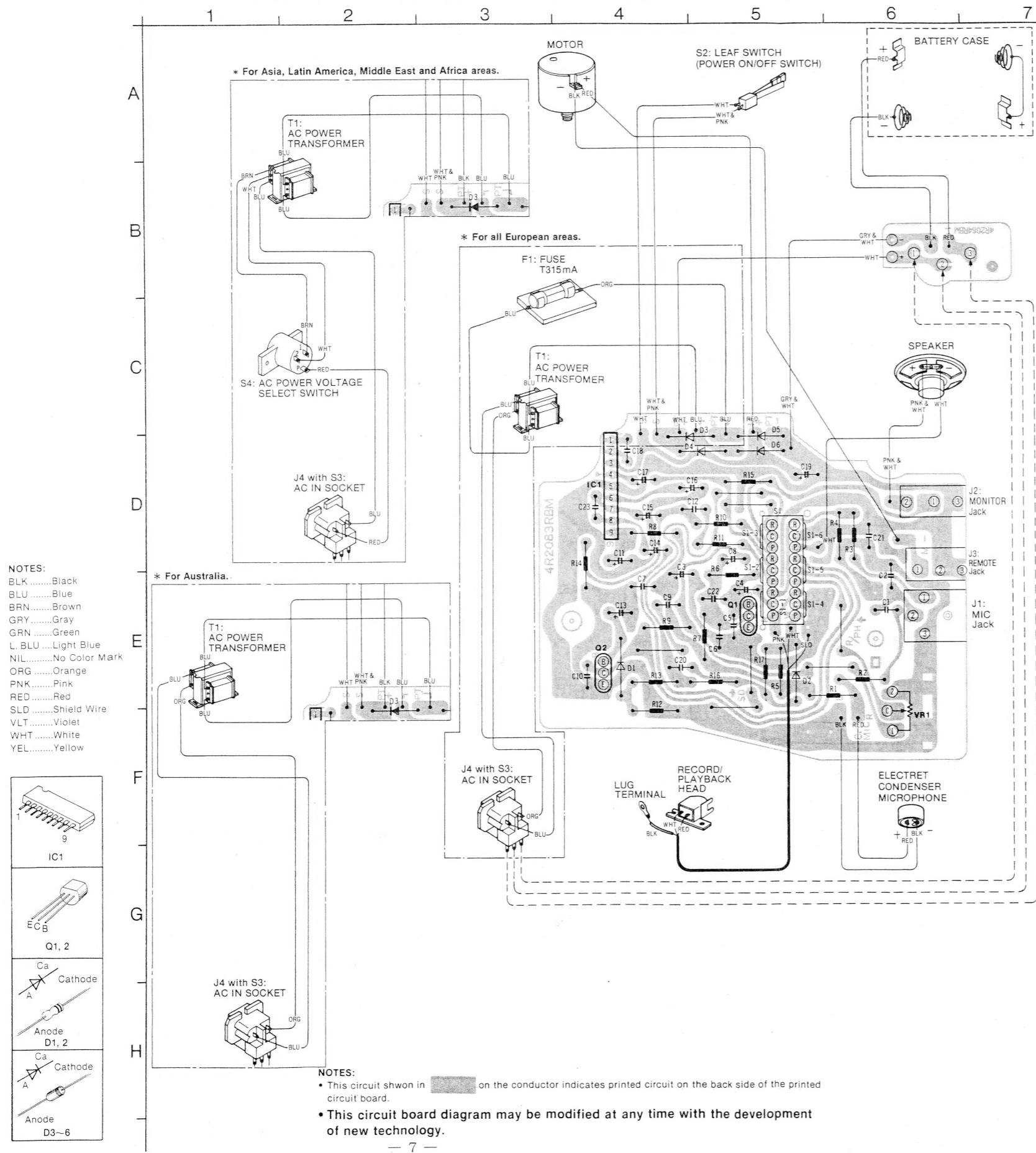
- mark stand for that the parts are supplied in MESA

Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
CABINET PARTS								
• K 1 [Z][E]	RKM956X	Main Case ⑯	• K 15 [L]	RGT1209V	Main Name Plate	K 28 [X]	RUV426ZB	Voltage Selector Switch
• K 1 [X][L]	RKM956W	Main Case ⑯	K 16	XTN3+8G	Screw ⑧×3×8 (Bottom Case Ass'y M'tg)	K 29 [X]	XTN23+8B	Cover △
• K 2	RKG157Z	Cassette Lid	K 17	XTN3+30G	Screw ⑧×3×30 (Bottom Case Ass'y M'tg)			Screw ⑧×2.3×8 (Voltage Selector Switch M'tg)
• K 3	EAS828SE	Speaker	K 18	XWG3	Washer φ3 (Transformer, P.C.B. M'tg)			
K 4	QKT117Z	Speaker Fixing Metal	K 20	XTV3+6G	Screw ⑧×3×6 (Speaker M'tg)	A 1 [Z]	RJA20Z	ACCESSORIES
K 5	QBPK0074	Spring (Cassette Lid)	K 21	XTN3+8B	Screw ⑧×3×8 (Transformer, P.C.B. M'tg)	A 1 [E]	RJA43Z	AC Power Cord △
K 6	WM034ZP	Condenser Microphone	K 22	XTV3+8G	Screw ⑧×3×8 (Cassette Lid Spring M'tg)	A 1 [X]	RJA21Z	AC Power Cord △
K 7	QBG1616	Mic Cushion	• K 23	QJI4R2084RBM	Circuit Board (Jack)	A 1 [L]	RJA26Z	AC Power Cord △
• K 8 [Z]	RYFQ2104Z	Bottom Case Ass'y ⑯	• K 24 [Z][E]	QMA4R4757	Angle, Fuse	• A 2 [Z][E]	RQX4793Z	Operating Instructions
• K 8 [E][L]	RYFQ2104E	Bottom Case Ass'y ⑯	K 25 [Z][E]	QTF1027	Fuse Holder △	• A 2 [X][L]	RQX4794Z	Operating Instructions
• K 8 [X]	RYFQ2104X	Bottom Case Ass'y ⑯	K 26 [Z][E]	XTN3+6G	Screw ⑧×3×6 (Fuse Angle M'tg)	A 3 [X]	RJP120Z	AC Plug Adaptor △
K 8-1	QJB0111	Battery Terminal (+)	K 27 [Z][E]	XSN3+5	Screw ⑧×3×5 (Fuse Holder M'tg)			
K 8-2	QBN8007	Battery Spring (-)						
• K 9	QGT4R1414	Knob, Volume (K)						
• K 10	QKH4R1193	Handle						
• K 11	QKD4R1216	Battery Lid ⑯						
K 14	RUV48Z2	AC Socket Cover △						
• K 15 [Z]	RGT1209Y	Main Name Plate						
• K 15 [E]	RGT1209W	Main Name Plate						
• K 15 [X]	RGT1209X	Main Name Plate						

SCHEMATIC DIAGRAM



CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM



ELECTRICAL PARTS LIST

Numbering System of Resistor

Example	ERD	25	F	J	101	Value (100Ω)	2R2	Type	ECKD	1H	102	Z	F
Type	Wattage		Shape	Tolerance	Value	(100Ω)		Type	ECEA	Voltage	Value (1000 pF)	M	R47
Type	Wattage		Shape	Tolerance	Value	(2.2Ω)	Type	ECET	Voltage	Peculiarity	Value (0.47 μF)		
Resistor Type	Wattage	Tolerance						Capacitor Type	Voltage			Tolerance	
ERD: Carbon	10 : 1/8 W	J : ±5%						ECEA: Electrolytic	0J : 6.3 V	2H : 500 V DC		C : ±0.25 pF	
ERG: Metal Film	12 : 1/2 W							ECCKD: Ceramic	1A : 10 V	1 : 100 V		J : ±5%	
ERX: Metal Film	25 : 1/4 W							ECCM: Polyester	1C : 16 V	DKC : 400 V AC		K : ±10%	
ERQ: Fuse Type Metal	1 : 1 W							ECQP: Polypropylene	1E : 25 V			Z : +80%, -20%	
RRD: Carbon (Chip Type)	18 : 1/8 W							ECET: Electrolytic	1H : 50 V			P : +100%, -0%	

REPLACEMENT PARTS LIST

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Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
INTEGRATED CIRCUIT					
IC 1	BA526	IC (POWER AMP)	VR 1	EVJ56AT12C14	Volume Control/with Screw (10kΩ/C)
TRANSISTORS					
Q 1, 2	2SC945LP	Transistor (PLAY EQ/MIC AMP, AGC)	F 1 [Z][E]	XBAQ0006	Fuse (T315mA) Δ
DIODES & RECTIFIERS					
D 1, 2	20A90	Diode (SWITCHING)	S 1	QSS6212	Record/Playback Switch
D 3, 4, 5, 6	ISR35100A	Diode (RECTIFIER)	S 2	QSB0170K	Switch, Power ON/OFF
SWITCHES					
J 1: MIC Jack	RSR2A01Z	Switch, Voltage Selector Δ	S 4 [X]	RJJ115Z	Jack, Remote
TRANSFORMERS					
• T 1 [Z] QLP091AHV	AC Power Transformer Δ	J 1	QJA0172	Jack, MIC	
• T 1 [E][L] QLP25AHV	AC Power Transformer Δ	J 2	RJJ19Y	Jack, Monitor	
T 1 [X] QLPN54AHV	AC Power Transformer Δ	J 3	QJA0156	Jack, Remote	
J 4 [Z][E] RJJ115Z		J 4 [Z][L] RJJ112Z	J 4 [X][L] RJJ112Z	Jack, AC IN whit S3 Δ	
JACKS					

Notes:

- [...] For all European areas except United Kingdom and F.R. Germany.
- [E] For United Kingdom.
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Ref. No.	Part No.	Ref. No.	Part No.
RESISTORS			
R 1	ERD25FJ332	C 1	ECFDD103MXY
R 2	ERD25FJ183	C 2	ECFDD223MXY
R 3, 11	ERD25FJ472	C 3, 13, 17	ECEA0JU331
R 4, 16	ERD25FJ103	C 4, 14	ECEA1EU3R3
R 5	ERD25TJ273	C 5, 9	ECFD272MXY
R 6	ERD25TJ155	C 6, 18	ECKD1H681KB
R 7	ERD25FJ822	C 7, 10, 21, 23	ECKD1H471KB
R 8	ERD25FJ102	C 8	ECEA1HU010
R 9	ERD25TJ223	C 11	ECEA0JU102
R 10	ERD25TJ123	C 12	ECFD473MXY
R 12	ERD25FJ151	C 15	ECEA1CU100
R 13	ERD25FJ121	C 16	ECEA1AU220
R 14	ERD25FJ470	C 19	ECEA1AU102
R 15	ERD25FJ180	C 20	ECKD1H332KX
R 17	ERD25FJ272	C 22	ECKD1H121KB
CAPACITORS			

REPLACEMENT PARTS LIST

• mark stands for that the parts are supplied in MESA.

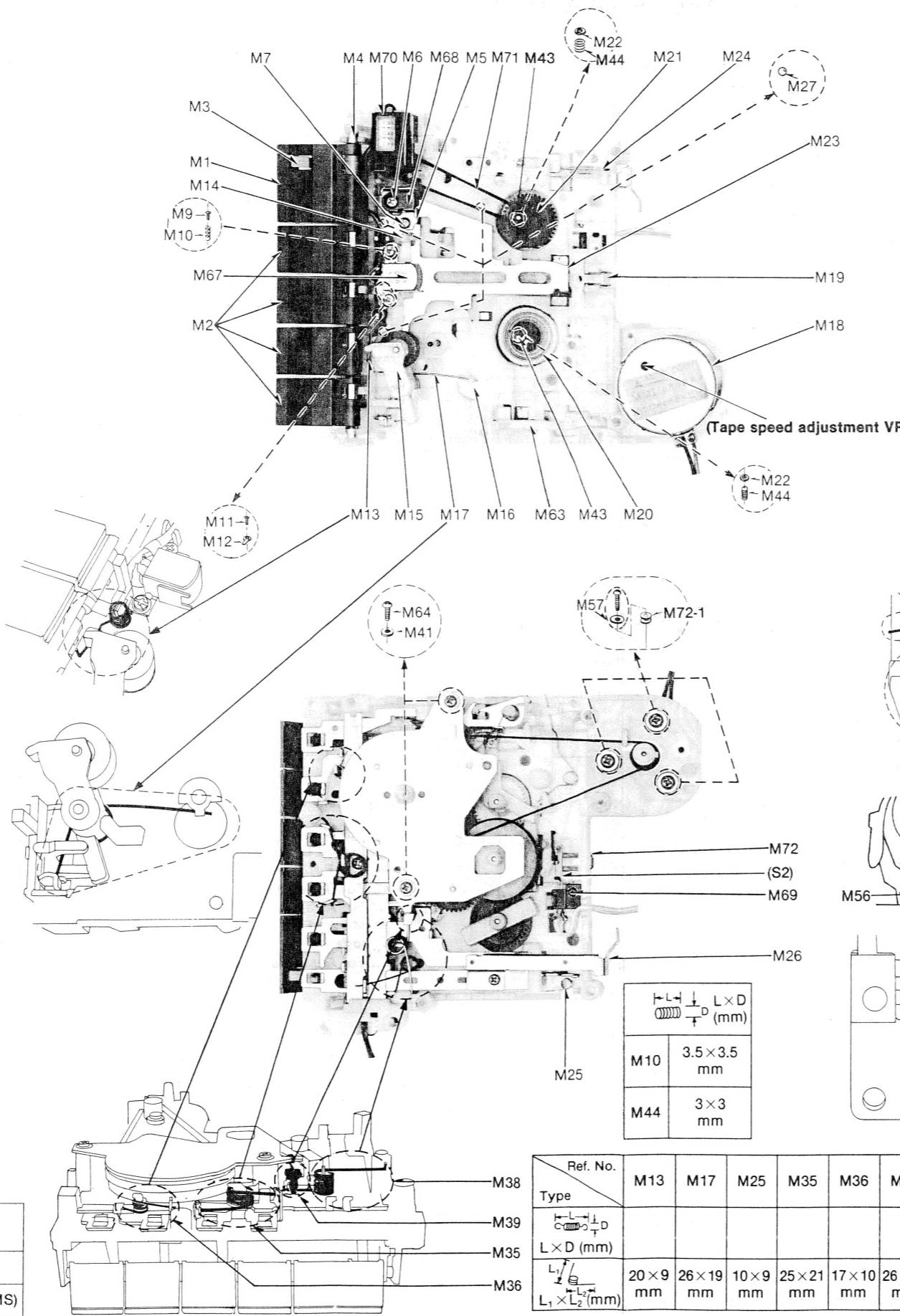
Ref. No.	Part No.	Part Name & Description
MECHANICAL PARTS		
• M 1	QG04R2204	Butt on, Playback
• M 2	QG04R2203	Butt on, Operation (REW/REV, FF/CUE, STOP/EJECT, PAUSE)
• M 3	QG04R2205	Button, Record
• M 4	QMN4R2825	Shaft, Button
• M 5	QMG4R0123	Tape Guide
M 6	XTN26+8B	Screw $\oplus 2.6 \times 8$ (Erase Head, Rod, Pressure Plate M'tg)
M 7	XSN26+3	Screw $\oplus 2.6 \times 3$ (Tape Guide M'tg)
M 9	XSB2D5	Screw (Head Adjustment)
• M 10	QBC4R1446	Spring, Head Adjustment
M 11	XSB2D6	Screw (Head M'tg)
M 12	QJT0039	Lug Terminal
• M 13	QBN4R1986	Spring, Pinch Roller
• M 14	QML4R4019	Lever, Auto Stop Detecting
• M 15	QXL4R1625	Pinch Roller Bracket Ass'y
• M 16	QML4R4017	Lever, Idler
• M 17	QBN4R1988	Spring, Idler
• M 18	QXU4R0324	Motor Ass'y
• M 19	QBN4R1987	Spring, Cassette Pressure
• M 20	QXD4R0150	Take-up Reel Table Ass'y
• M 21	QDR4R1171	Supply Reel Table
M 22	QBW0042	Washer (Reel Table M'tg)
• M 23	QXK4R2871	Head Base Plate Ass'y
• M 24	QML4R4021	Lever, Erase Safety
• M 25	QBN4R1783	Spring, Erase Safety Lever
• M 26	QBP4R1990	Spring, Record
M 27	QDK1012	Steel Ball $\phi 2.5$
• M 28	QMR4R2090	Stop/Eject Rod
• M 29	QMR4R2089	Pause Rod
• M 30	CMR4R2091	F.F. Rod
• M 31	QMR4R2092	Rewind Rod
• M 32	QMR4R2093	Playback Rod
• M 33	QMR4R2094	Record Rod
• M 34	QMR4R1783	Lock Rod
• M 35	QBN4R1777	Spring, F.F. Rod
• M 36	QBN4R1709	Spring, Stop Rod
• M 37	QMF4R2085	Plate, Rod Pressure
• M 38	QBN4R1776	Spring, Playback Rod
• M 39	QBT4R1972	Spring, Head Base Plate
• M 40	QBN4R1706	Fixing
M 41	XWG26	Spring, Record Rod
		Washer $\phi 2.6$ (Rod Pressure Plate, Flywheel Retainer M'tg)
M 42	XTN26+4B	Screw $\oplus 2.6 \times 4$ (Record Rod M'tg)
M 43	QBW2008	Washer $\phi 2$ (Rewind Gear, Reel Table M'tg)
• M 44	QBC4R1447	Spring, Back Tension
• M 45	QXL4R1562	F.F. Frame Sub Ass'y
• M 45-1	QBN4R1710	Spring, F.F. Frame Sub
M 46	QBW0043	Washer (Capstan M'tg)
• M 47	QML4R3531	Lever, Change
• M 48	QML4R4022	Lever, Cue
• M 49	QBN4R1712	Spring, F.F. Sub
• M 50	QBN4R1701	Spring, Change Lever
M 51	QML3528	Lever, Pause Lock
• M 52	QBN4R1705	Spring, Pause Lock
M 53	QBW2046	Washer (Idler M'tg)
• M 54	QX4R0109	Idler Ass'y
• M 55	QMR4R1784	Auto Stop Driving Rod
• M 56	QBT4R1889	Spring, Auto Stop Driving Rod
M 57	QHQ1359	Screw (Motor M'tg)
• M 60	QDB4R0337	Belt, Flywheel
• M 61	QXF4R0216	Flywheel Ass'y
• M 62	QXH4R0429	Flywheel Retainer Ass'y
M 63	QML4R4020	Lever, Cassette Up
M 64	XTN26+10B	Screw $\oplus 2.6 \times 10$ (Flywheel Retainer M'tg)
• M 65	QXG4R1045	F.F. Pulley Ass'y
• M 66	QDG4R1193	Gear, Rewind
M 67	QWY0120	Record/Playback Head
• M 68	QWY2139S	Erase Head
M 69	XTN2+8B	Screw $\oplus 2 \times 8$ (Leaf Switch M'tg)
• M 70	QDC4R0178	Tape Counter
M 71	QDB0268	Belt, Tape Counter
• M 72	QXK4R2711	Mechanism Chassis Ass'y
• M 72-1	QBG4R1420	Cushion, Motor Rubber

SPECIFICATIONS

Pressure of pressure roller	420 ± 60 g
Takeup tension	50 ± 15 g·cm
Wow and flutter (JIS)	Less than 0.3% (WRMS)
Tape speed accuracy	$\pm 3\%$

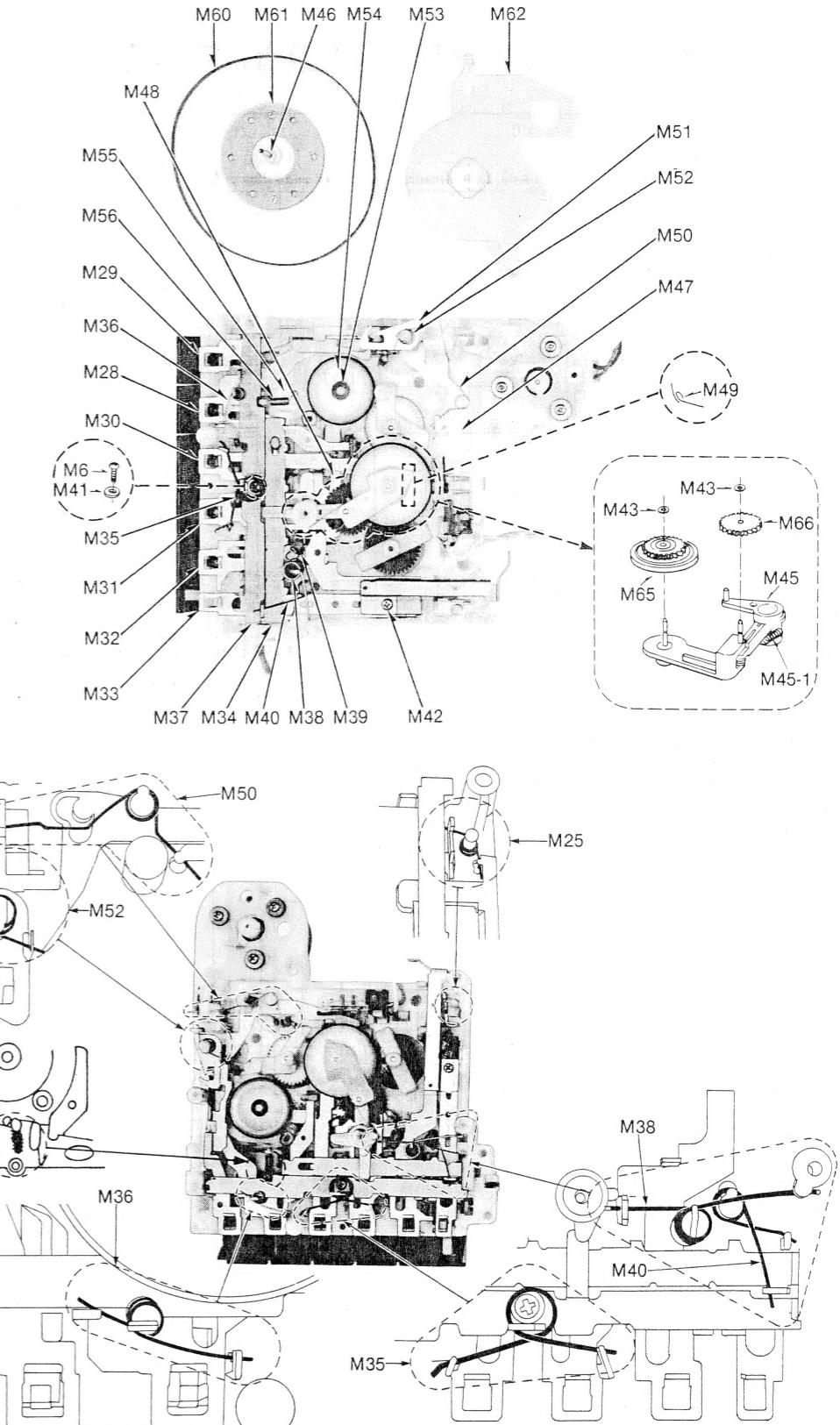
RQ-2104 RQ-2104

MECHANISM PARTS & SPRING LOCATION



Ref. No.	M13	M17	M25	M35	M36	M38	M39	M40	M45-1	M49	M50	M52	M56
Type													
L × D (mm)													
$L_1 \times L_2 \times D$ (mm)	20×9 mm	26×19 mm	10×9 mm	25×21 mm	17×10 mm	26×19 mm							
$L_1 \times L_2$ (mm)													

- 9 -



- 10 -